

A preliminary list of species of Calliphoridae and Sarcophagidae (Diptera) of the Republic of Seychelles

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Abstracts: A list of all known 11 calliphorid and 13 sarcophagid species of the Republic of Seychelles is given. *Hemipyrellia fernandica* and *Parasarcophaga* (*s. str.*) *hirtipes* are new records for Seychelles. Four new combinations of the specific names are presented: *Liosarcophaga* (*s. str.*) *exuberansoides* (Zumpt, 1964), comb. nov.; *L. (s. str.) metallescens* (Bezzi 1923), comb. nov.; *L. (s. str.) pyrrhopoda* (Bezzi 1923), comb. nov.; *Transvaalomyia seychellica* (Verves 1986), comb. nov. The systematic position and specific composition of the genus *Transvaalomyia* Lehrer & Lehrer, 1992 is discussed.

Key words: Seychelles, fauna, Calliphoridae, Sarcophagidae.

Introduction

The faunistic publications on Seychelles calliphorids and sarcophagids are based on small collections (Bezzi 1923, 1927a, b; Reed 1974; Séguy 1928a; Stein 1910; Verves 1986; Villeneuve 1916; Zumpt 1951b, 1956, 1958, 1962, 1964, 1972, 1973). The present article summarises all the faunistic and taxonomic literature on these flies from the Republic of Seychelles. The original results of identification of the flies collected by J. Gerlach and other members of Indian Ocean Biodiversity Assessment 2000-2005 are published for the first time. In addition the faunistic data of the flies collected by Yu. Chernov in 1984 and originally published in Russian (Verves 1986), are given in English translation.

List of species

FAMILY CALLIPHORIDAE SUBFAMILY CALLIPHORINAE TRIBE LUCILINI

Hemipyrellia fernandica (Macquart 1855).

Lucilia fernandica Macquart 1855: 132 [112].

Hemipyrellia fernandica: Pont 1980: 793; Zumpt 1962: 61.

Lucilia taeniops Bigot 1860: 542.

Hemipyrellia taeniops: Aubertin 1931: 500; Zumpt 1962: 61.

Material examined: Seychelles: Cousine Island, 4.04.2001, female; Silhouette Island, Chemin Montagne Possee, sweep netting, 21.07.2000, male (J. Gerlach).

Distribution: MADAGASCAN REGION: Madagascar (Diégo-Suarez, Fianarantsoa, Nossi Be, Tamatave, Tuléar); Seychelles*(Silhouette, Cousine). AFROTROPICAL REGION: Angola; Benin; Botswana; Burkina Faso; Burundi; Cameroon; Cape Verde Isl.; Central African Republic; Chad; Congo; D.R. Congo; Djibuti; Eritrea; Ethiopia; Gabon; Gambia; Ghana; Guinea; Ivory Coast; Kenya; Lesotho; Liberia; Malawi; Mali; Mauritania; Mozambique; Namibia; Niger; Nigeria; Principe; Rwanda; São Tomé; Senegal; Sierra Leone; Socotra; Somalia; South Africa (Cape Province, Kwazulu-Natal, Free State, Mpumalanga); Sudan; Tanzania; Togo; Uganda; Upper Volta; Zambia; Zimbabwe.

Bionomics: unknown.

Hemipyrellia germana (Robineau-Desvoidy 1830).

Lucilia germana Robineau-Desvoidy 1830: 455.

Hemipyrellia germana: Pont 1980: 793; Verves 1986: 548.

Lucilia brunnipes Macquart 1843: 295 [138].

Hemipyrellia brunnipes: Zumpt 1956: 65; 1962: 63.

Lucilia argenticeps Macquart 1851: 219 [246].

Lucilia madagascariensis Macquart 1851: 219 [246]; Villeneuve 1916: 205; 1918: 507.

Lucilia borbonensis Macquart 1851: 220 [247].

Lucilia smaragdosaphira Bigot 1860: 543.

Hemipyrellia pseudofabriciana Enderlein 1935: 246.

Distribution: MADAGASCAN REGION: Madagascar: Diégo-Suarez, Fianarantsoa, Majunga, Nossi Be, Tamatave, Tananarive, Tuléar; Mauritius; Réunion; Seychelles (Aldabra).

Bionomics: unknown.

Lucilia (Phaenicia) infernalis (Villeneuve 1914).

Phumonesia infernalis Villeneuve 1914: 307.

Lucilia infernalis: Pont 1980: 794; Schumann 1986: 24; Verves 1986: 548.

Material examined: Silhouette Island, forest with cocos palms, 24.08.1984 (Yu. Chernov), 2 males.

Distribution: MADAGASCAN REGION: Seychelles (Silhouette). AFROTROPICAL REGION: Angola; Benin; Botswana; Burkina Faso; Burundi; Cameroon; Cape Verde Isl.; Central African Republic; Chad; Congo; D.R. Congo; Djibuti; Equatorial Guinea; Eritrea; Ethiopia; Gabon; Gambia; Ghana; Guinea; Ivory Coast; Kenya; Lesotho; Liberia; Malawi; Mali; Mauritania; Mozambique; Namibia; Niger; Nigeria; Principe; Rwanda; Senegal; Sierra Leone; Socotra; Somalia; South Africa (Cape Province, Kwazulu-Natal, Free State, Mpumalanga); [South] Yemen; Sudan; Tanzania; Togo; Uganda; Upper Volta; Zambia; Zimbabwe.

Bionomics: larvae necrophagous (Zumpt 1956).

2 * - New record for Seychelles

SUBFAMILY CHRYSOMYINAE

***Chrysomya albiceps* (Wiedemann 1819)**

Musca albiceps Wiedemann 1819: 38.

Compomyia mascarenhasi Séguéy 1928a: 11, as var. of *Musca albiceps* Wiedemann, 1819: 38;

Chrysomya albiceps: Bezzi 1923: 83; James 1977: 541; Pont 1980: 788; Schumann 1986: 39; Senior-White *et al.* 1940: 143; Verves 1986: 548; Zumpt 1956: 182; 1962: 68.

Distribution: MADAGASCAN REGION: Madagascar (Majunga, Tamatave); Mauritius; Reunion; Rodriguez Isl.; Seychelles (Mahe, Silhouette, Dennis, Cosmoledo, Amirantes, Farquhar, Aldabra). AFROTROPICAL REGION: Angola; Benin; Botswana; Burkina Faso; Burundi; Cameroon; Cape Verde Isl.; Central African Republic; Congo; D.R. Congo; Djibuti; Equatorial Guinea; Eritrea; Ethiopia; Gabon; Gambia; Guinea; Ivory Coast; Kenya; Lesotho; Liberia; Malawi; Mali; Mauritania; Mozambique; Namibia; Niger; Nigeria; Oman; Rwanda; St. Helena; Senegal; Sierra Leone; Socotra; Somalia; South Africa (Cape Province, Kwazulu-Natal, Free State, Mpumalanga); [South] Yemen; Sudan; Tanzania; Togo; Uganda; Zambia; Zimbabwe. PALAEARCTIC REGION: Afghanistan; Albania; Algeria; Armenia; Austria; Azerbaijan; Azores; Bosnia & Herzegovina; Bulgaria; Canary Isl.; Croatia; Cyprus; Czech Republic; Egypt; France; Germany; Greece; Gruzia; Hungary; Iran; Iraq; Israel; Italy; Jordan; Kazakhstan; Kyrgyzstan; Lebanon; Libya; Macedonia; Madeira; Malta; Moldova; Monaco; Montenegro; Morocco; [North] Yemen; Portugal; Romania; Russia (Far East: Southern Primorye); San Marino; Saudi Arabia; Serbia; Slovakia; Slovenia; Spain; Spanish North Africa: Tangier; Switzerland; Syria; Tajikistan; Tunisia; Turkey; Turkmenistan; Ukraine; Uzbekistan; West Bank; Western Sahara. ORIENTAL REGION: India: Punjab; Pakistan. NEOTROPICAL REGION: Argentina; Bolivia; Brazil (Campinas, Santos, São Paulo); Ecuador; Paraguay; Peru; Puerto Rico.

Bionomics: larvae necro- and coprophilous, predators of larvae of other Diptera (*Muscina stabulans*, *Liopygia argyrostoma* etc.); producers of facultative cutaneous myiasis of livestock, goats, donkey, sheep, camels and men. Flies at faeces, corpses, fruit – *Cucumis mello*, *Citrullus lanatus*, *Musa* sp., *Carica papaya*, *Mangifera* sp.; synanthropic species (González-Mora & Peris 1988; Greenberg 1971, 1973; Omar 1995; Rognes 2002; Zumpt 1965).

***Chrysomya chloropyga* (Wiedemann 1818).**

Musca chloropyga Wiedemann 1818: 44.

Chrysomya chloropyga: Pont 1980: 788; Schumann 1986: 39; Verves 1986: 548; Zumpt 1962: 68.

Pycnosoma cyanea Séguéy 1928b: 109, as var. of *Musca putoria* Wiedemann, 1830: 403.

Pycnosoma pulchra Séguéy 1928b: 110, as var. *Musca putoria* Wiedemann, 1830: 403.

Material examined: Felicité Isl., 29. 08. 1984 (Yu. Chernov), male.

Distribution: MADAGASCAN REGION: Madagascar (Fianarantsoa, Majunga, Nossi Be, Tamatave, Tananarive, Tuléar); Mauritius; Reunion; Seychelles (Felicite, Amirantes, Cosmoledo, Aldabra). AFROTROPICAL REGION: Angola; Benin; Botswana; Burkina Faso; Burundi; Cameroon; Cape Verde Isl.; Central African Republic; Congo; D.R. Congo; Djibuti; Equatorial Guinea; Eritrea; Ethiopia; Fernando Poo; Gabon; Gambia; Guinea; Ivory Coast; Kenya; Lesotho; Liberia; Malawi; Mali; Mauritania; Mozambique; Namibia; Niger; Nigeria; Rwanda; St. Helena; Senegal; Sierra Leone; Socotra; Somalia; South Africa (Cape Province, Kwazulu-Natal, Free State, Mpumalanga); [South] Yemen; Sudan; Tanzania; Togo; Uganda; Zambia; Zimbabwe. PALAEARCTIC REGION: Canary Isl.; Egypt; (North) Yemen; Saudi Arabia. NEOTROPICAL REGION: Brazil (Campinas, Santos, São Paulo).

Bionomics: synanthropic; larvae necrophagous (Greenberg 1971, 1973; Zumpt

1965).

***Chrysomya megacephala* (Fabricius 1794).**

Musca megacephala Fabricius 1794: 317.

Chrysomya megacephala: Bezzi 1927b: 235; James 1977: 542; Pont 1980: 789; Schumann 1986: 39; Verves 1986: 548; Zumpt 1962: 67.

Somomyia pfefferi Bigot 1877: 257.

Material examined: Seychelles: La Digue Island, forest at 150m altitude above sea level, 28.8.1984, male; Mahe Island, mountain forest, at decaying papaya (*Carica papaya*) fruit, 08.1984 (Yu. Chernov), male & 5 females; Silhouette Island, sandy sea coast, 26.08.1974, female (Yu. Chernov); *ibid.*, La Passe (above Dauban mausoleum), 1-4.07.2000 (J. Gerlach), 2 females; Bird Island, 4.04.2001 (J. Gerlach), 2 females; La Digue Island, 20.10.2001 (J. Gerlach), female.

Distribution: MADAGASCAN REGION: Madagascar; Mauritius; Reunion; Rodriguez; Seychelles (Mahe, Silhouette, La Digue, Bird, Aldabra). AFROTROPICAL REGION: Angola; Benin; Botswana; Burkina Faso; Burundi; Cameroon; Cape Verde Isl.; Central African Republic; Congo; D.R. Congo; Djibuti; Equatorial Ghana; Guinea; Eritrea; Ethiopia; Gabon; Gambia; Guinea; Ivory Coast; Kenya; Lesotho; Liberia; Malawi; Mali; Mauritania; Mozambique; Namibia; Niger; Nigeria; Oman; Rwanda; Senegal; Sierra Leone; Socotra; Somalia; South Africa (Cape Province, Kwazulu-Natal, Free State, Mpumalanga); [South] Yemen; Sudan; Tanzania; Togo; Uganda; Zambia; Zimbabwe. PALAEARCTIC REGION: Afghanistan; Canary Isl.; China; Egypt; Iran; Japan; Libya; Korea; Russia (Eastern Siberia, Far East: Southern Primorye). ORIENTAL REGION: Bangladesh; Brunei; Cambodia; China; India; Indonesia: Aru, Java, Timor; Japan: Ryukyu Isl.; Laos; Malaysia: Borneo, Malaya; Myanmar; Nepal; Pakistan; Philippines: Busuanga, Cebu, Leyte, Luzon, Mindanao, Negros, Palawan, Panay, Samar, Sulu Arch.; Singapore; Thailand; Taiwan; Vietnam. AUSTRALASIAN/OCEANIAN REGION: Admiralty Isl.; Australia; Belau; Bonin Isl.; Christmas Isl.; Cook Isl.; Easter I.; Eastern Samoa; Fiji; French Polynesia (Austral Isl., Marquesas Isl., Society Isl., Tuamotu Arch., Tubuai Isl.); Hawaiian Isl.; Henderson & Rapa Isl.; Indonesia: Irian Java, Maluku; Kiribati; Lord Howe Isl.; Marianas; Marshall Isl.; Micronesia; Kiribati; New Caledonia; New Zealand; Niue; Norfolk I.; Palau; Papua New Guinea; Pitcairn Isl.; Solomon Isl.; Tonga; Vanuatu; Volcano Isl.; Wake I.; Western Samoa. NEARCTIC REGION: USA (California). NEOTROPICAL REGION: Brazil: Campinas, Santos, São Paulo; Ecuador; Honduras; Puerto Rico.

Bionomics: Common scavenger species, bred from decaying meat, carrion, dead men, corpses of pigs, dogs, toads, rats, frogs, fish & marine shells, turtle shell; essentially saprophagous, breeding in decomposing animal matter; occasionally a causative agent of cutaneous myiasis of different living mammals and man. Larvae are usual forensic indicators. Flies are distributed in native and secondary forests, synanthropic inhabitants and along sea coasts at elevations from sea level to 2000m. Adults swarm on meat and sweets, with a notable attraction to fish, and are recorded as sucking all the juice exuding from palm tapped for toddy; sweeping on flowers *Portulaca* and *Messerschmidia*. This synanthropic species is among the most pestiferous filth flies known, and is likely to transmit enteric pathogens and parasites under unsanitary conditions (Catts & Goff 1992; Greenberg 1971, 1973; Goff & Odum 1987; Esser 1991; James 1962; Kurahashi 1982, 1987; Kurahashi & Chohanadisai 2001; Olsen *et al.* 1992; Senior-White *et al.* 1940; Wells 1991; Zumpt 1965).

***Cosmina calida* Bezzi 1923.**

Cosmina calida Bezzi 1923: 83; Pont 1980: 780; Verves 1986: 548.

Distribution: MADAGASCAN REGION: Seychelles (Aldabra).

Bionomics: unknown.

***Rhinia apicalis* (Wiedemann 1830).**

Idia apicalis Wiedemann 1830: 354.

Rhinia apicalis: Stein 1910: 162; James 1977: 552; Pont 1980: 784; Verves 1986: 547; Zumpt 1958: 112; 1962: 94.

Rhinia testacea Robineau-Desvoidy 1830: 423.

Material examined: Amirantes: Poivre atoll, on leaves of *Scaevola taccada*, 7.08.1984 (Yu. Chernov), male & 4 females.

Distribution: MADAGASCAN REGION: Comores; Madagascar (Tamatave, Tananarive); Mauritius; Reunion; Rodriguez; Seychelles (Mahe, Poivre, Cosmoledo, Aldabra). AFROTROPICAL REGION: Angola; Benin; Botswana; Burkina Faso; Burundi; Cameroon; Cape Verde Isl.; D.R. Congo; Djibuti; Equatorial Guinea; Eritrea; Ethiopia; Gabon; Gambia; Guinea; Ivory Coast; Kenya; Lesotho; Liberia; Malawi; Mali; Mauritania; Mozambique; Namibia; Niger; Nigeria; Oman; Rwanda; St. Helena; Senegal; Sierra Leone; Socotra; Somalia; South Africa (Cape Province, Kwazulu-Natal, Free State, Mpumalanga); [South] Yemen; Sudan; Tanzania; Togo; Uganda; Zambia; Zimbabwe. PALAEARCTIC REGION: Canary Isl.; Egypt; Iran; Israel; Morocco; Saudi Arabia; Spanish Africa (Tanger); Turkey. ORIENTAL REGION: Chagos Isl.; China (Fujian, Guangdong, Hainan, Jiangxi); Cocos Isl.: Keeling Isl.; India: Assam, Maharashtra, Tamil Nady, West Bengal; Indonesia: Buru, Java; Malaysia (Borneo (Sarawak), Malaya (Perak)); Nicobar Isl.; Philippines (Leyte, Luzon, Palawan); Sri Lanka; Taiwan; Thailand; Vietnam. AUSTRALASIAN/OCEANIAN REGION: Australia: Northern Territory, Queensland; Fiji; French Polynesia: Society Isl.; Hawaiian Isl.; Kiribati; Marianas; Marshall Isl.; Micronesia; Palau; Papua New Guinea; Society Isl.; Solomon Isl.; Vanuatu.

Bionomics: bred from dead fish and human corpses, nests of *Dorylus* ants and *Bembex melanopa* wasps. Flies occur on beaches and in coastal villages, females observed to oviposit on sand where picnic leftovers and dead small marine animals were abundant and in detritus in burrows, ant nests, humus-rich soil (Bohart & Gressitt 1951; Cuthbertson 1938; James 1962; Senior-White *et al.* 1940).

***Rhinia coxendix* (Villeneuve 1916).**

Idia coxendix Villeneuve 1916: 204.

Rhinia coxendix: Pont 1980: 784; Verves 1986: 548.

Distribution: MADAGASCAN REGION: Seychelles (Cosmoledo). AFROTROPICAL REGION: Cameroon; D.R. Congo; Djibuti; Eritrea; Ethiopia; Kenya; Lesotho; Malawi; Rwanda; Somalia; South Africa (Cape Province, Kwazulu-Natal, Free State, Mpumalanga); Sudan; Tanzania; Uganda; Zambia; Zimbabwe.

Bionomics: unknown.

***Rhinia scotti* Stein 1910.**

Rhinia scotti Stein 1910: 162; Peris 1952: 42; Pont 1980: 784; Verves 1986: 548; Zumpt 1962: 93.

Material examined: Farquhar, sandy seacoast, at decomposed fish, 16.08.1984 (Yu. Chernov), male & female.

Distribution: MADAGASCAN REGION: Seychelles (Mahe, Silhouette, Farquhar, Aldabra); Madagascar (Diégo-Suarez, Fianarantsoa, Tamatave, Tananarive).

Bionomics: unknown.

***Stomorphina cyanea* (Stein 1910).**

Idia cyanea Stein 1910: 163.

Stomorphina cyanea: Peris 1952: 24; Pont 1980: 786; Verves 1986: 548; Zumpt 1962: 89.

Idia rostrata Robineau-Desvoidy, 1830: 421 [junior primary homonym of *Idia rostrata* Wiedemann, 1819: 22]

Distribution: MADAGASCAN REGION: Madagascar (Fianarantsoa, Tananarive; Mauritius); Seychelles (Mahe).

Bionomics: unknown.

FAMILY SARCOPHAGIDAE
SUBFAMILY SARCOPHAGINAE
TRIBE SARCOPHAGINI
SUBTRIBE PHALLANTHINA

***Transvaalomyia aldabrae* (Zumpt 1973).**

Sarcophaga aldabrae Zumpt 1973: 3;

Sarcophaga (Afrothyrsoecema) aldabrae: Dear 1980: 811; Pape 1996: 412; Reed 1974: 200.

Afrothyrsoecema aldabrae: Verves 1986: 547.

Transvaalomyia aldabrae: Lehrer & Lehrer 1992: 328.

Distribution: MADAGASCAN REGION: Seychelles (Aldabra - Grande Terre = 'South Island').

Bionomics: unknown.

***Transvaalomyia seychellica* (Verves 1986), comb. nov.**

Afrothyrsoecema seychellica Verves 1986: 540.

Sarcophaga (Afrothyrsoecema) seychellica: Pape 1996: 296.

Material examined: Amirantes: Poivre atoll, at leaves of *Scaevola*, 5-7.08.1984, 8 males & 4 females (holotype – male, 6.8.1984); Farquhar Isl., sandy sea coast, at decomposed fish, 16.08.1984, 2 males & female; Seychelles: La Digue Island, forest at altitude 150m above sea level, 28.8.1984, male; Silhouette Island, sandy sea coast, 26.08.1974, male [type series; Yu. Chernov leg.]; *ibid.*, La Passe (above Dauban mausoleum), 1-4.07.2000 (J. Gerlach), 2 females.

Distribution: MADAGASCAN REGION: Seychelles (Silhouette, La Digue, Poivre, Farquhar).

Bionomics: unknown.

SUBTRIBE PARASARCOPHAGINA

***Bercaea africa* (Wiedemann 1824).**

Musca africa Wiedemann 1824: 49.

Sarcophaga (Bercaea) africa: Pape 1996: 302.

Sarcophaga cruentata Meigen 1826: 28.

Sarcophaga (Bercaea) cruentata: Dear 1980: 811.

Bercaea cruentata: Verves 1986: 547.

Thyrsotetradiscus friederichsianus Enderlein 1928: 20.

Mesothyrsla madagascariensis Enderlein 1928: 27.

Sarcophaga haemorrhoidalis: Bezzi 1923: 91; Zumpt 1951a: 177; 1964: 69
[misidentification: not *Musca haemorrhoidalis* Fallén 1817: 236].

Sarcophaga (Bercaea) haemorrhoidalis: Reed, 1974: 198; Zumpt, 1972: 103
[misidentification: not *Musca haemorrhoidalis* Fallén 1817: 236].

Material examined: Amirantes: Poivre, at leaves of *Scaevola*, 5-7.08.1984 (Yu. Chernov), male; Farquhar, sandy sea coast, at decomposed fish, 16.08.1984 (Yu. Chernov), male; Felicité Isl., 29. 08. 1984 (Yu. Chernov), male; Seychelles: La Digue Island, forest at altitude 150m above sea level, 28.8.1984, male (Yu. Chernov).

Distribution: MADAGASCAN REGION: Madagascar (Diégo-Suarez, Nosy Be, Nosy Komba); Mauritius; Reunion; Rodrigues Isl.; Seychelles (Mahe, La Digue, Felicité, Poivre, Desroches, Farquhar). AFROTROPICAL REGION: Angola; Benin; Botswana; Burkina Faso; Burundi; Cameroon; D.R. Congo; Eritrea; Ethiopia; Gabon; Gambia; Ivory Coast; Lesotho; Liberia; Mauritania; Mozambique; Namibia; Nigeria; Oman; Rwanda; St. Helena; Sierra Leone; South Africa (Cape Province, Kwazulu-Natal, Mpumalanga); Sudan; Tanzania; Togo; Zambia; Zimbabwe. PALAEARCTIC REGION: Afghanistan; Albania; Algeria; Armenia; Austria; Azerbaijan; Azores; Belgium; Bosnia & Herzegovina; Bulgaria; Byelorussia; Canary Isl.; China; Croatia; Cyprus; Czech Republic; Denmark; Egypt; France; Germany; Greece; Gruzia; Hungary; Iran; Iraq; Ireland; Israel; Italy; Japan; Jordan; Kazakhstan; Kyrgyzstan; Latvia; Lebanon; Libya; Lithuania; Luxembourg; Macedonia; Madeira; Malta; Moldova; Mongolia; Montenegro; Morocco; Netherlands; North Korea; [North] Yemen; Norway; Poland; Portugal; Romania; Russia (European part, North Caucasus, West Siberia, East Siberia, Far East); Saudi Arabia; Serbia; Slovakia; Slovenia; South Korea; Spain; Sweden; Switzerland; Syria; Tajikistan; Tibet; Tunisia; Turkey; Turkmenistan; Ukraine; United Kingdom; Uzbekistan. ORIENTAL REGION: Bangladesh; Bhutan; China; India; Nepal; Pakistan; Vietnam. AUSTRALASIAN/OCEANIAN REGION: Australia; Hawaii. NEARCTIC REGION: Canada (Quebec); USA (California, Florida, Georgia, Illinois, Massachusetts, Missouri, Oregon, Texas). NEOTROPICAL REGION: Argentina (Buenos Aires); Brazil (Rio de Janeiro, Rio Grande do Sul); Costa Rica; Cuba; Mexico; Paraguay.

Bionomics: larvae usually develop in faeces and excrement of man, mammals and birds, rarely in corpses of different invertebrate and vertebrate animals, including dead cephalopods and echinoderms at sea shores, and other decaying animal matter; reared from nests of birds (*Troglodites aegon*); facultative parasites of terrestrial snails (*Cepaea nemoralis*, *Helix aspersa*, *Euparyphia pisana*, *Eobania vermicularis*) and grasshoppers (*Dociostaurus maroccasus*, *Locusta migratoria*, *Melanoplus differentialis*, *Pachytulus migratorius*, *Schistocerca cancellata*, *S.gregaria*); cause auricular and intestinal myiasis of men and dogs. Adults swarm on faeces, meat, dead invertebrate and vertebrate animals and other decomposed animal matter, putrid fruits and vegetables; distributed in towns, villages, at pastures and sea coasts. This synanthropic species is among the most pestiferous filth flies known, and is likely to transmit enteric pathogens and parasites under unsanitary conditions (Berner 1960, 1973; Eicher 1937; Jabbar 1987; Greenberg 1971; Khan, 1984; Rak & Anwar 1975; Rees 1973; Shura-Bura & Gaidukova 1975; Zakharova 1961; Zumpt 1965).

B e r c a e a i n a e q u a l i s (A u s t e n 1 9 0 9) .

Sarcophaga inaequalis Austen 1909: 99; Zumpt 1951b: 78; 1964: 69.

Sarcophaga (Bercaea) inaequalis: Dear, 1980: 811; Pape 1996: 304; Reed,

1974: 198; Zumpt 1972: 106.

Bercaea inaequalis: Verves 1986: 547.

Material examined: Farquhar Isl., sandy sea coast, at decomposed fish, 16.08.1984 (Yu. Chernov), male; Seychelles Isl.: La Digue Island, forest at altitude 150m above sea level, 28.8.1984 (Yu. Chernov), male.

Distribution: MADAGASCAN REGION: Madagascar (Diégo-Suarez, Fianarantsoa, Majunga, Nosy Be, Tananarive, Tamatave, Tuléar); Seychelles (La Digue, Farquhar). AFROTROPICAL REGION: Benin; Botswana; Burkina Faso; Cameroon; D.R. Congo; Eritrea; Ethiopia; Gabon; Ivory Coast; Kenya; Lesotho; Liberia; Mozambique; Namibia; Nigeria; Rwanda; Sierra Leone; Sudan; Tanzania; Togo; [South] Yemen; South Africa (Cape Province, Kwazulu-Natal, Mpumalanga); St. Helena; Sudan; Rwanda; Uganda. PALAEARCTIC REGION: [North] Yemen.

Bionomics: bred from faeces; adults attracted to excrement, corpses and other decomposed animal matters (Cuthbertson 1937).

***Liopygia* (s. str.) *ruficornis* (Fabricius 1794).**

Musca ruficornis Fabricius 1794: 314.

Sarcophaga ruficornis: Zumpt 1951a: 176; 1964: 77.

Sarcophaga (*Liopygia*) *ruficornis*: Dear 1980: 813; Pape 1996: 347; Zumpt 1972: 176.

Parasarcophaga (*Liopygia*) *ruficornis*: Rohdendorf 1963: 9.

Distribution: MADAGASCAN REGION: Madagascar (Diégo-Suarez, Tananarive); Seychelles (Mahé). AFROTROPICAL REGION: Botswana; Chagos Arch.; D.R. Congo; Socotra; South Africa (Kwazulu-Natal). PALAEARCTIC REGION: Saudi Arabia; ORIENTAL REGION: Andaman Isl.; Bangladesh; Bhutan; China (Guangdong); India; Indonesia (Sumatra); Japan (Ryukyu Isl.); Laccadive Isl.; Malaysia: Malaya; Nepal; Myanmar; Pakistan; Philippines; Singapore; Sri Lanka; Taiwan, Thailand. AUSTRALASIAN/OCEANIAN REGION: Australia; Guam; Eastern Samoa; Hawaii; Indonesia (Maluku); Marianas; New Caledonia; Papua New Guinea; Western Samoa. NEARCTIC REGION: Canada (Quebec); USA (California, District of Columbia, Florida, Massachusetts, New York, North Carolina, Pennsylvania). NEOTROPIC REGION: Brazil (Pará, Rio de Janeiro, Rio Grande do Sul); Panama.

Bionomics: larvae develop in privies, garbage, dead invertebrate and vertebrate animals; bred from living locusts *Encoptolophus sordidus copstalis*, *Poecilocerus pictus*, *Schistocerca vaga*; produce facultative cutaneous myiasis of Indian toad (*Bufo melanostictus*), dogs, sheep and men. Imago in towns, villages, along the seashore. Synanthropic species (Kano *et al.* 1967; Rees 1985; Roy & Dasgupta 1977; Zumpt 1965).

***Liosarcophaga* (s. str.) *exuberansoides* (Zumpt, 1964), comb. nov.**

Sarcophaga dux: Bezzi 1923: 91 [misidentification: not *Sarcophaga dux* Thomson, 1869]

Sarcophaga exuberansoides Zumpt 1964: 70.

Sarcophaga (*Liosarcophaga*) *exuberansoides*: Pape 1996: 350.

Sarcophaga (Thyrsochnema) exuberans: Dear 1980: 815 (part); Reed 1974: 201 (part) [misidentification: not *Sarcophaga exuberans* Pandellé, 1896: 186.

Distribution: MADAGASCAN REGION: Madagascar (Tuléar); Seychelles (Mahe, Praslin, Felicite, Dennis, Aldabra).

Bionomics: unknown.

Liosarcophaga (s. str.) *metallescens* (Bezzi 1923), comb. nov.

Sarcophaga metallescens Bezzi 1923: 86.

Sarcophaga (Liosarcophaga) metallescens: Pape 1996: 355.

Parasarcophaga (Liosarcophaga) voluptus Verves 1986: 543.

Material examined: Seychelles Isl.: Silhouette, forest with cocos palms, 23.06.1984, male (Yu. Chernov) (holotype of *P. voluptus* Verves, 1986).

Distribution: MADAGASCAN REGION: Seychelles (Mahé, Silhouette).

Bionomics: unknown.

Liosarcophaga (s. str.) *pyrrhopoda* (Bezzi 1923), comb. nov.

Sarcophaga pyrrhopoda Bezzi 1923: 89; Verves 1986: 547.

Sarcophaga (Liosarcophaga) pyrrhopoda: Pape 1996: 53, 357.

Distribution: MADAGASCAN REGION: Seychelles (Aldabra - Picard Island).

Bionomics: unknown.

Liosarcophaga (s. str.) *tibialis* (Macquart 1851).

Sarcophaga tibialis Macquart 1851: 232 [205]; Zumpt 1951a: 179; 1964: 70.

Sarcophaga (Curranea) tibialis: Reed, 1974: 198; Zumpt 1972: 109.

Sarcophaga (Liosarcophaga) tibialis: Pape 1996: 359.

Parasarcophaga (Curranea) tibialis: Verves 1986: 545.

Sarcophaga albofasciata Macquart 1851: 232 [205].

Material examined: Seychelles Isl.: North Island, 29.07.2000 (J. Gerlach & J. Willi), 1 female; *ibid.*, *Calophyllum inophyllum* woodland, 30.07-1.08.2000 (J. Gerlach), 1 male; Aride island, 07.2000 (J. Bowler), 1 male; Mahé, mountain forest, at decomposed fruits, end of 08.1984, male & female (Yu. Chernov); Silhouette island, Chemin Montagne Possee, sweep netting, 21.07.2000, (J. Gerlach), 2 females.

Distribution: MADAGASCAN REGION: Madagascar (Fianarantsoa, Majunda, Nosy Be, Tananarive, Tamatave, Tuléar); Mauritius; Reunion; Seychelles (Mahé, Silhouette, North, Aride). AFROTROPICAL REGION: Angola; Botswana; Burkina Faso; Cameroon; D.R. Congo; Lesotho; Mozambique; Nigeria; Oman; Sierra Leone; Somalia; South Africa (Cape Province, Mpumalanga); Sudan; Tanzania; Togo; Zambia; Zimbabwe. PALAEARCTIC REGION: Algeria; Canary Isl.; Croatia; Czech Republic; Egypt; France; Italy; Greece; Malta; Serbia; Spain; Tunisia. ORIENTAL REGION: Chagos Arch. AUSTRALASIAN/OCEANIAN REGION: French Polynesia (Society Isl., Tuamotu), New Caledonia.

Bionomics: larvae bred from dead terrestrial shells, locusts and mammals; caused facultative cutaneous myiasis of men. Imago attracted to corpses, faeces and other decaying animal matter (Beaver 1986; Delassus 1929; Disney *et al.* 1973; Greenberg, 1971; Villeneuve 1922; Zumpt 1965, 1972).

Parasarcophaga* (s. str.) *hirtipes (Wiedemann, 1830).

Sarcophaga hirtipes Wiedemann, 1830: 361; Zumpt 1951a: 176.

Sarcophaga (*Parasarcophaga*) *hirtipes*: Pape 1996: 374; Zumpt 1972: 79.

Material examined: Bird Island, 21-26.03.2003 (J. Lawrence), male.

Distribution: MADAGASCAN REGION: Seychelles* (Bird). AFROTROPICAL REGION: Angola; Botswana; Burkina Faso; Burundi; D.R. Congo; Gambia; Guinea; Kenya; Lesotho; Liberia; Malawi; Mali; Namibia;

* - new record for Seychelles

Oman; Senegal; South Africa (Cape Province, Kwazulu-Natal, Mpumalanga); Sudan; Tanzania; Uganda; Zambia; Zimbabwe. PALAEARCTIC REGION: Afghanistan; Algeria; Azerbaijan; Bulgaria; Egypt; Iran; Iraq; Israel; Italy; Jordan; Kazakhstan; Kyrgyzstan; Lebanon; Morocco; Russia: North Caucasus (Dagestan); Saudi Arabia; Syria; Tajikistan; Turkey; Turkmenistan; Uzbekistan; West Bank. ORIENTAL REGION: Bangladesh; India; Pakistan. AUSTRALASIAN/OCEANIAN REGION: Australia (Queensland); Hawaii; Indonesia (Irian Java, Maluku - Ambon, Aru); Papua New Guinea (Bismarck Arch.); Solomon Isl.

Bionomics: Larvae develop in faeces, corpses and meat; produced intestinal myiasis of men. Imago attracted to faeces, corpses and other decomposed animal matter, putrid fruit and vegetables; xerophilous species (Greenberg 1971; Salva & Abdel-Rahman 1983; Sychevskaya 1960).

SUBTRIBE BOETTCHERISCINA

Boettcherisca peregrina (Robineau-Desvoidy, 1830).

Sarcophaga peregrina Robineau-Desvoidy 1830: 356; Zumpt 1964: 61.

Sarcophaga (*Prionophalla*) *peregrina*: Reed, 1974: 195.

Sarcophaga (*Boettcherisca*) *peregrina*: Pape 1996: 310.

Boettcherisca peregrina: Verves 1986: 547.

Sarcophaga meriani Zumpt, 1951: 182.

Material examined: Amirante Isl.: Poivre Atoll, at leaves of *Scaevola*, 6.08.1984 (Yu. Chernov), 3 females; Seychelles Isl.: Silhouette, meadows and sandy area near river between cocos palms, 26.08.1984 (Yu. Chernov), 2 males & 2 females; ibid., Grande Barbe, 06.2001 (J. Gerlach), male & 2 females.

Distribution: MADAGASCAN REGION: Mauritius; Reunion; Seychelles (Silhouette, Poivre). PALAEARCTIC REGION: China; Japan; Korea; Russia (Far East - Primorye); Tibet. ORIENTAL REGION: Andaman Isl., Bangladesh; Bhutan; China; India; Indonesia (Kalimantan); Japan (Ryukyu Isl.); Malaysia (Malaya); Myanmar; Nepal; Nicobar Isl., Singapore; Sri Lanka; Taiwan; Thailand; Vietnam. AUSTRALASIAN/OCEANIAN REGION: Australia; Bonin Isl.; Fiji; French Polynesia (Society Isl.); Guam; Indonesia (Irian Java); Hawaii; Kiribati (Gilbert I.); New Zealand; Niue; Norfolk Isl.; Northern Marianas; Papua New Guinea (Bismarck Arch.); Volcano Isl.; Western Samoa.

Bionomics: larvae bred from dead vertebrate and invertebrate (insects, snails) animals, garbage, animal dung and human faeces; from living earthworms and locusts *Chortoicetes terminifera* and *Euphloea corina*; facultative predator of lepidopteran pupae; produced cutaneous myiasis of men and mammals. Synanthropic species, known as disease vector (Das & Dasgupta, 1986; Greenberg, 1971, 1973; Johntson & Tiegs, 1922; Kano *et al.*, 1967; Kurahashi & Kano 1984; Parker 1923; Senior-White *et al.* 1940; Zumpt 1965).

Sarcophaga spilargyra Bezzi 1923: 87.

Sarcophaga spilargyra Bezzi 1923: 87; Pape 1996: 427.

Sarcophaga pilargyra: Verves 1986: 547 [incorrect subsequent spelling]

Distribution: Seychelles: Mahé, Silhouette.

Bionomics: unknown.

Sarcophaga trifolia Villeneuve, 1910.

Sarcophaga trifolia Villeneuve, 1910: 146; Bezzi, 1923: 92

Distribution: MADAGASCAN REGION: Seychelles (Mahe, Long). AFROTROPICAL REGION: Socotra.

Bionomics: unknown.

Taxonomic notes

The genus *Afrothyrsochnema* Rohdendorf 1963: 6 (type species: *Sarcophaga globicauda* Rohdendorf 1931, by original designation) had been designated by the following features (nomenclature of male genitalia is adapted from Verves 2000):

- 3 postsutural *dc*-bristles present;
- propleuron bare;
- R_1 bare;
- flagellomere 2-3x as long as pedicel;
- distiphallus in profile short and high;
- vesica well developed.

These characters, and the absence of lateral juxtal processes in the type species are identical to characters of the nominate subgenus of the genus *Myorhina* Robineau-Desvoidy, 1830: 383, and I have treated *Afrothyrsochnema* Rohdendorf 1963 as a synonym of *Myorhina* s. str. (Verves 1997: 45). The other Afrotropical and Madagascan species of *Afrothyrsochnema* sensu Rohdendorf (1963) have well developed lateral juxtal processes and have been correctly included in a separate genus (Lehrer & Lehrer 1992). On the basis of all its characters *Afrothyrsochnema seychellica* Verves, 1986 also belong to this genus:

Genus *Transvaalomomyia* Lehrer & Lehrer 1992

Transvaalomomyia Lehrer & Lehrer 1992: 328.

Type species: *Transvaalomomyia erlangeri* Lehrer & Lehrer 1992, by original designation.

Composition: *T. aldabrae* (Zumpt, 1973); *T. erlangeri* Lehrer & Lehrer 1992; *T. gambiensis* (Zumpt, 1972); *T. inhacaensis* (Zumpt, 1972); *T. luabae* (Zumpt, 1972); *T. natalensis* (Zumpt, 1972); *T. seychellica* (Verves, 1986) **comb. nov.**; *T. vadoni* (Zumpt, 1969); *T. weyeri* (Zumpt, 1972).

Bezzi (1923) recorded Seychelles specimens of “*Sarcophaga spinosa*” (Long island, Providence) and “*Sarcophaga depressifrons*” (Long island). In fact *Pseu-*

dothyrsocnema spinosa (Villeneuve, 1912) is restricted to Europe, and *Heteronychia depressifrons* (Zetterstedt, 1845) to the Palaearctic and northern Oriental Region. The true specific identities of the specimens recorded by Bezzi under both those names, are unknown.

Discussion

Despite of the relatively large number of publications concerning calliphorids and sarcophagids of Seychelles, this fauna has not been studied exhaustively. The occasional collections have not determined the full species composition. The distribution of synanthropic species in Seychelles (*Chrysomya albiceps*, *C. chloropyga*, *C. megacephala*, *Bercaea africa*, *Liopygia ruficornis*, *Liosarcophaga tibialis*, *Boettcherisca peregrina*), which are disease vectors and myiasis producers, could be a potential danger for human health.

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